

## 2004 Climate Summary

Despite two cold spells, January ended with near normal temperatures and precipitation. Although temperatures fell below zero readings during Arctic outbreaks, no record lows were set.

Cold air remained over the region during early February, followed by several weeks of mild weather. Temperatures in February ended slightly above normal. The year's only major winter storm brought freezing rain and heavy snow to the region on the last weekend of February into March 1. Most areas on the plains received 5 to 10 inches of snow with 12 to 22 inches falling in the northern Black Hills and along the eastern and northern foothills.

Mild temperatures and dry conditions prevailed through March and April. March average temperatures at every reporting site were among the ten warmest on record and Gillette, Lead, and Spearfish all had the second warmest March. April's temperatures were a bit above normal, but the month was very dry. May temperatures were near normal with below normal precipitation.

Below normal temperatures prevailed during the summer, especially in June and August. Pactola Dam, Opal, and Wood had the third coldest June on record; Devils Tower and Mt. Rushmore had the fourth coldest. Near normal temperatures in July were followed by much below temperatures in August. Cottonwood had the coldest August since their records began in 1909. Pactola Dam and Wood had the second coldest August and Interior, Mt. Rushmore, Faith, Opal and Milesville had the third coldest on record.

September and October had near normal temperatures, but a great contrast in precipitation. Dry weather continued across northeastern Wyoming, the Black Hills, and far western South Dakota; while above normal precipitation occurred in central South Dakota.

November and December were dry and mild across western South Dakota, a reflection of a weak El Nino that developed during the summer of 2004. Average temperatures were nearly 5 degrees above normal for the period with precipitation less than one half of normal. Across northeastern Wyoming, temperatures were also mild, but precipitation was near normal. The weather changed drastically the week before Christmas when cold temperatures and snow moved into the area. Temperatures fell below zero, with Deerfield, South Dakota's low 39 degrees below zero on December 23. Several inches of snow made for a white Christmas in northeastern Wyoming and the northern Black Hills.

## HYDROLOGIC SUMMARY

Precipitation in northeastern Wyoming and western South Dakota was generally below normal during 2004. According to the U. S. Drought Monitor, the area ranges from moderate drought in central South Dakota to exceptional drought in northeastern Wyoming.

Several locations set daily precipitation records for February on the 29th; including 1.74 inches in Deadwood, 0.95 inches at Mount Rushmore, 0.77 at Fort Meade, and 0.70 inches at Pactola Dam. Newell received 0.76 inches of precipitation on the 29<sup>th</sup>—the second highest daily total in February.

Interior had with the second driest April on record and Long Valley the third driest. Precipitation during the summer months was near normal, although below normal rainfall in June and August was somewhat offset by a wet July. South central South Dakota posted above normal precipitation in some areas during June. A narrow band of heavy rain in south central South Dakota dumped around eight inches of rain and caused flash flooding.

Heavy rains during the first week of July produced 2 to 4 inches across the plains of western South Dakota. Faith measured 3.29 inches on July 5, which was the wettest day for July and the second wettest day on record (behind 3.35 inches on May 21, 1962). Redig's 2.10 inches of rain on the 5<sup>th</sup> was the second most ever on a day in July, and 1.73 inches at Opal was the third highest daily total for July. Intense thunderstorms over central Pennington County produced flash flooding on July 3, but no damage or injuries were reported.

Interior and Cottonwood had the wettest September on record while Faith, Dupree, and Milesville the fourth wettest on record. Interior received 2.24 inches of rain on September 5 for the wettest day on record in September, while Cottonwood had 1.78 inches—the third wettest day in September.

Faith had the fourth wettest October, with Wood, Opal, Dupree, Bison, and Redig their fifth wettest. The 2.48 inches of rain that fell in Faith on October 29 was the wettest day in October—and the second time this year that Faith set a daily record rainfall for a month. Also on October 29, Bison had 2.10 inches Dupree had 2.13 inches, both the second wettest day in October.

## PRECIPITATION TOTALS 2000 – 2004

STATION NAME	YEAR	TOTAL	NORMAL	DEPARTURE
DEADWOOD 2 NE	2000	34.83	28.43	6.4
DEADWOOD 2 NE	2001	25.36	28.43	-3.07
DEADWOOD 2 NE	2002	22.89	28.43	-5.54
DEADWOOD 2 NE	2003	28.42	28.43	-0.01
DEADWOOD 2 NE	2004	24.48	27.04	-2.56

		135.98	140.76	-4.78
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STATION NAME	YEAR	TOTAL	NORMAL	DEPARTURE
FORT MEADE	2000	23.61	21.43	2.18
FORT MEADE	2001	15.07	21.43	-6.36
FORT MEADE	2002	14.33	21.43	-7.1
FORT MEADE	2003	16.47	21.43	-4.96
FORT MEADE	2004	13.4	20.83	-7.43

		82.88	106.55	-23.67
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STATION NAME	YEAR	TOTAL	NORMAL	DEPARTURE
HOT SPRINGS	2000	16.19	17.33	-1.14
HOT SPRINGS	2001	12.4	17.33	-4.93
HOT SPRINGS	2002	12.97	17.33	-4.36
HOT SPRINGS	2003	17.84	17.33	0.51
HOT SPRINGS	2004	12.67	16.98	-4.31

TOTAL		72.07	86.3	-14.23
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STATION NAME	YEAR	TOTAL	NORMAL	DEPARTURE
MILESVILLE 5 NE	2000	20.5	19.63	0.87
MILESVILLE 5 NE	2001	18.37	19.63	-1.26
MILESVILLE 5 NE	2002	11.6	19.63	-8.03
MILESVILLE 5 NE	2003	12.89	19.63	-6.74
MILESVILLE 5 NE	2004	20.94	19.19	1.75

TOTAL		84.3	97.71	-13.41
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STATION NAME	YEAR	TOTAL	NORMAL	DEPARTURE
MISSION	2000	24.53	20.07	4.46
MISSION	2001	23.1	20.07	3.03
MISSION	2002	11.08	20.07	-8.99
MISSION	2003	14.29	20.07	-5.78
MISSION	2004	22.26	19.6	2.66

<b>TOTAL</b>	95.26	99.88	-4.62
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